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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/777,697	02/12/2004	Bruce Schofield	16421BAUS01U	5707

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EXAMINER	
KEEFER, MICHAEL E	

ART UNIT	PAPER NUMBER
2454	

NOTIFICATION DATE	DELIVERY MODE
12/11/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/777,697	SCHOFIELD ET AL.	
	Examiner	Art Unit	
	MICHAEL E. KEEFER	2454	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 October 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,7,9,11 and 13-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,7,9,11 and 13-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is responsive to the RCE and Amendment filed 10/20/2008. Claims 4-6, 8, 10 and 12 have been cancelled, thus claims 1-3, 7, 9, 11, and 13-17 are pending in this application.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1, 7, 11, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller (US 5920701), in view of Ruttenberg et al. (US 2002/0083185), hereafter Ruttenberg, in further view of Percival et al. (US 5991816), hereafter Percival.

Regarding **claim 1**, Miller discloses:

A method of facilitating the transmission of medical images on a network, the method comprising the steps of:

receiving a transaction request relating to the delivery of at least one medical image from a data source to a data target on a network; (Fig. 3, step 100, see also Col. 6 lines 8-12)

scheduling delivery of the medical image to occur at a scheduled point in the future, between the data source and the data target on the network, the step of scheduling comprising ascertaining a relative policy-based priority of the transaction request compared to other previously received transaction requests, sorting all of the transaction requests that have been received and which have not yet started to be executed according to a policy-based priority, and allocating

future timeslots to each transaction request to thereby enable the transaction requests to be scheduled over time for execution in the future according to their respective priorities; (see table 1 (located in Col. 7), which shows that requests have priority. See Figure 4, which shows the process of creating the schedules using the priority of the requests and their timing constraints. Specifically, see step 220 which shows determining the ideal transmission time for each transaction. Also note steps 202 and 230 in which high and low priority requests are sorted from each other. This process is described in the text in Col. 7-10.)

reserving network resources on the network for the delivery of to enable the medical image to be delivered over the network from the data source to the data target at the scheduled time for execution; (the system schedules the times and rates at which sources may transmit data over the network , therefore, as each source is reserved a certain amount of bandwidth at certain times. For example, see Col. 14, lines 24-43 which discusses how bandwidth is reserved for various competing data sources)

interfacing the data source and data target to instruct the data source to transfer the data over the reserved network resources to the data target at the future scheduled time for the transaction request to thereby coordinate delivery of the medical image between the data source and data target; (see Fig. 3, step 114 where the schedules for data transmissions are distributed to the data sources, thus coordinating the transfer of data between the data sources and the servers they are sending data to at a future time. See also Col. 11, lines 1-2)

monitoring the delivery of the medical image over the network; and (Col. 13, lines 10-30 disclose that the system monitors for indications that transmissions have been completed)

adjusting the steps of scheduling and reserving, if necessary to accommodate adverse network conditions, if the adverse network conditions delay execution of one or more transaction requests to prevent execution of the transaction requests from occurring as scheduled. (Col 13 lines 10-37 discuss adjusting the schedule based off of conditions on the network, specifically regarding adverse network conditions: "In the event that the notification received in step 118 suggests that a content source 12, 14 was not successful in delivering content data to all of the replicated servers 16, 18, 20, the scheduler 10 adjusts the distribution schedule for that content source 12, 14, and may, in turn, adjust the distribution schedules of other content sources 12, 14. Adjustments are typically made in response to causation data transmitted with the notification relaying the cause of the unsuccessful distribution. The causation data can indicate the existence of a link outage on the network, lack of resources at the replicated servers 16, 18, 20 to handle the incoming data, or simply an excessive error rate. If the content source 12, 14 that experienced the unsuccessful distribution attempt was previously assigned a high priority level, the scheduler may adjust the schedules of the low priority level content sources so that the high priority level content source can complete distribution to the replicated servers 16, 18, 20 by the desired delivery time.)

Miller discloses all of the limitations of claim 1 except for:

adjusting the steps of scheduling and reserving if necessary to accommodate higher priority transaction requests that are subsequently received the step of adjusting comprising determining which of the transaction requests that have been scheduled over time for execution in the future have a priority that is higher than the subsequently received transaction request (higher priority requests), determining which of the transaction requests that have been scheduled over time for execution in the future have a priority that is lower than the subsequently received transaction request (lower priority requests), and changing the scheduled time for execution of the lower priority transaction requests so that the subsequently received transaction request will be executed at a point in the future after the higher priority requests are executed and before the lower priority transaction requests are executed;

The general concept of preempting and delaying lower priority requests when a higher priority request arrives is well known in the art as taught by Ruttenberg. (See [0040] “Preemption module finds lower priority requests that have been accepted and whose allocated resources are relevant to a new higher priority request” also note the ‘DELAYED’ message which indicates a postponing of scheduling of the lower priority request. Further, [0063] “uses this information to determine if a higher priority request can preempt an already scheduled (accepted) lower priority request”.)

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Miller with the general concept of preempting and delaying lower priority requests when a higher priority request arrives as taught by Ruttenberg in order to provide enhanced prioritization services.

Miller and Ruttenberg teach all the limitations of claim 1 except that the data transmitted is specifically medical images.

The general concept of sending medical images over the network is well known in the art as taught by Percival. (Abstract)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Miller and Ruttenberg with the general concept of sending medical images over the network as taught by Percival in order to make the system more versatile.

Regarding **claim 7**, Ruttenberg teaches:

Wherein ascertaining a relative priority comprises determining from the transaction request who issued the request, where the request was issued and why the transaction request was issued. (See at least [0063], which discloses using requesting node, source, node, file size, and deadline to determine a priority of the request. See also [0064])

Regarding **claim 11**, Miller discloses:

Wherein the transaction request specifies a requested timing, and wherein the requested timing is under-constrained. (See table 1, Col. 7, note that the time of delivery

is a 'deadline' for delivery, thus these requests are under-constrained. Further, note that Ruttenberg also teaches under-constrained requests, see [0033], note that "the deadline for data arrival" is an under-constrained request, as it merely requests that the data arrive by a certain time and does not give a specific time for transmission.)

Regarding **claim 13**, Miller discloses:

Setting a class of service for the transaction request. (See at least Col. 13 lines 4-9 which discloses sending a data class of service information (i.e. the data rate it may transmit at).)

4. Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller, Ruttenberg, and Percival as applied to claim 1 above, and further in view of Kausik et al. (US 2004/0073867), hereafter Kausik.

Miller, Ruttenberg, and Percival teach all the limitations of claims 2-3 except for understanding a work flow of transactions and anticipating upcoming requests.

Regarding **claim 2**, Kausik teaches:

wherein the step of scheduling comprises understanding a work flow of transactions on the network. ("The anticipated requests can be precomputed based on triggers reflecting users' historical access patterns." Abstract)

Regarding **claim 3**, Kausik teaches:

wherein the step of understanding the work-flow comprises anticipating upcoming transaction requests from at least one of other transaction requests, statistics, and transaction patterns. ("The anticipated requests can be precomputed

based on triggers reflecting users' historical access patterns." Abstract, this involves other transaction requests ("historical access") as well as the patterns of the transaction requests "historical access patterns".)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Miller, Ruttenberg, and Percival with the teachings of Kausik in order to increase network efficiency.

5. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miller, Ruttenberg, and Percival as applied to claim 1 above, and further in view of Hamilton et al. (US 6975963), hereafter Hamilton.

Miller, Ruttenberg, and Percival teach all the limitations of claim 9 except for generating a histogram of network traffic over a day or week.

The general concept of creating a histogram of network traffic over a time period is well known in the art as taught by Hamilton. (Col. 10 lines 14-33 teach the creation of histograms for network traffic over varying time spans, which include days and weeks.)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Miller, Ruttenberg, and Percival with the general concept of creating a histogram of network traffic over a time period as taught by Hamilton in order to allow a network administrator to have access to data needed to configure scheduler settings.

6. Claims 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller, Ruttenberg, and Percival as applied to claim 1 above, and further in view of Kurose et al. (US 2001/0056459), hereafter Kurose.

Miller, Ruttenberg, and Percival teach all the limitations of claims 14-15 except for finding a path for the data and reserving bandwidth along the path.

The general concept of using RSVP to reserve bandwidth for transactions is well known in the art as taught by Kurose. ([0008] teaches setting up a path, [0010] teaches reserving bandwidth along the previously set up path)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Miller, Ruttenberg, and Percival with the general concept of using RSVP to reserve bandwidth for transactions as taught by Kurose in order to ensure end-to-end quality of service and allow multi-hop transactions.

7. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miller, Ruttenberg, and Percival as applied to claim 16 above, and further in view of Hoogenboom et al. (US 2002/0054568), hereafter Hoogenboom.

Miller, Ruttenberg, and Percival teach all the limitations of claim 16 except for rate-limiting applications.

The general concept of rate-limiting applications is well known in the art as taught by Hoogenboom. (Abstract, the switch enforces rate-limiting policies against virtual connections (i.e. applications) when a backlog reaches a certain level.)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Miller, Ruttenberg, and Percival with the general concept of rate-limiting applications as taught by Hoogenboom in order to prevent application starving (i.e. that certain applications will never be allocated any resources.)

8. **Claim 17** is rejected under 35 U.S.C. 103(a) as being unpatentable over Miller in view of Lehane et al. (US 20060056328), hereafter Lehane.

Regarding claim 17, Miller discloses:

A medical image transport service configured to facilitate and coordinate the transmission of a medical image from a data source to a data target on a network, comprising:

a data management service schedule transmission of a medical image to occur at a future point in time from the data source to the data target, the data management service controlling operation of the data source such that the data management service is able to specify when and at what data rate the data source will output data on to the network; (See at least Col. 13 lines 4-9 which discloses sending a data rate and a scheduled transmission time to a data source).

a network resource manager to interface network devices in the network to reserve network resources on the network for the transmission of the medical image from the data source to the data target based on the path allocation and the schedule determined for the transmission of the medical image by the data management service. (See at least Col. 13 lines 4-9 which discloses sending a data rate and a scheduled transmission time to a data source, this shows interfacing the sending devices to send the content at the scheduled time).

Miller discloses all the limitations of claim 17 except for performing topology discovery and path allocation for requests in addition to scheduling them.

The general concept of a network management service performing topology discovery and path allocation is well known in the art as taught by Lehane. (See [0043] which discloses using OSPF, which is a topology discovery and path allocation protocol. Also note paragraphs 80, 81, and 83 which further disclose other methods of topology discovery and path allocation.)

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Miller with the general concept of a network management service performing topology discovery and path allocation as taught by Lehane in order to provide assistance in deploying, monitoring, and managing traffic-management technologies. (Lehane [0013]-[0014])

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL E. KEEFER whose telephone number is (571)270-1591. The examiner can normally be reached on Monday through Friday 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on (571) 272-1915. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MEK 12/2/2008

/Dustin Nguyen/
Primary Examiner, Art Unit 2454